DOCUMENT RESUME

ED 224 829 TM 830 022

AUTHOR Brunton, Max L.
TITLE Is Competency Testing Accomplishing any Breakthrough in Achievement?
PUB DATE 20 Mar 82
NOTE 15p.; Paper presented at the Annual Meeting of the Association for Supervision and Curriculum Development. (Anaheim, CA, March 20-23, 1982).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141) -- Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Achievement Gains; Grade 10; High Schools; Longitudinal Studies; Minimum Competencies; *Minimum Competency Testing; Outcomes of Education; *School Districts; State Boards of Education; *State Programs; *State Standards
IDENTIFIERS *California Achievement Tests

ABSTRACT

Parkrose (Oregon) School District 3 became involved in standards of competence in 1978 when the Oregon State Board of Education adopted standards requiring high school students to demonstrate competency skills to graduate. The California Achievement Test has been administered to Parkrose tenth graders each fall since 1974 when students scored slightly below the national average. A significant change registered after 3 years. Scores then jumped dramatically, with the median close to the 70th percentile for the past 4 years. These gains are attributed to a goal-based instructional program developed in response to the state's directive for a competency program. These competencies are an integral part of the regular curriculum of well-defined program and course goals. The most appropriate levels at which students should demonstrate competence are chosen. Students are certified as competent as soon as requirements are met. A competency testing program tests seventh, eighth, and ninth grades twice a term. All teachers have received inservice training on how to teach to an objective. These standards have resulted in improving curriculum, raising school standards, and improving preparation for college entrance. (Author/PN)

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National ASCD Convention, Anaheim, California
March 20, 1982

IS COMPETENCY TESTING ACCOMPLISHING ANY BREAKTHROUGH IN ACHIEVEMENT?

Presented by Max L. Brunton,
Administrative Assistant, Secondary Education
Parkrose School District #3, Portland, Oregon

Ten years ago the Oregon State Board of Education adopted standards requiring high school students in 1978 to demonstrate competency skills in order to graduate.

This bold step caused Oregon to become the first state to require standards of competence, an action which subsequently influenced nearly every state to follow suit.

Parkrose was one of the first districts in the state to get involved and we soon found ourselves in a leadership role.

Parkrose is located in the northeast corner of metropolitan Portland which means that we are situated so that we overlook the Columbia River and southwest Washington state. This happens to be the closest corner to Mt. St. Helens and we have had a grandstand view of its activities. Currently, it is showing signs of renewed activity by those who constantly monitor it. If you have flown into Portland, Oregon, and have landed at Portland International Airport, you were in our district.

We are a suburban school district declining in enrollment--from 5,700 students to 3,500 and have had to close two of our ten buildings.

Our topic for discussion is: Is competency testing accomplishing any breakthroughs in achievement? Yes, I can report with pride and enthusiasm, competency testing <u>is</u> accomplishing breakthroughs in our area.

For example, the California Achievement Test is administered to Parkrose 10th graders each fall. When we started doing this on an annual basis, in 1974, our students scored slightly below the national average according to published norms.

It took three years before a significant change was registered but after that scores jumped dramatically and have stayed up. Our median student has been close to the 70th percentile for the past four years.

Our most dramatic change occurred in mathematics. In 1981 approximately 75% of our 10th graders scored above the national average with a median score at the 71st percentile.

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A breakdown on the distribution of these math test scores looks like this:

(Transparency #1)

40.4% -- 1st quartile (top 25%)
35.0% -- 2nd quartile
18.3% -- 3rd quartile
6.3% -- 4th quartile

We attribute these gains to our goal-based instructional program developed in response to our state's directive for a competency program.

My objective this afternoon is to share with you what our district is doing to help our students become productive learners and some of the results of this effort.

First, a little background for your understanding.

- When the State Board determined in 1972 that competencies should be part of the graduation requirements, it allowed LOCAL DISTRICTS TO DETERMINE THE LEVEL OF COMPETENCY EACH WOULD ACCEPT FROM STUDENTS. This is an important aspect of Oregon's program.

- The 1972 state competency requirements looked like this:

(Transparencies #2 & #3)

- In 1982 the requirements now look like this:

(Transparency #4)

Here is an example of what our Reading Competencies looked like:

(Transparency #5)

Note the indicators which are standards of performance required to demonstrate if competency is mastered. They are attached to all competencies and give direction for the competency test.

It is still the same as in 1972 except that the reading level has increased from 6th to 8.5 grade level.

- Parkrose opted to stay with the original requirements when changed by State Board in 1980. This was a reflection of staff and community support.

REASONS FOR THIS SUPPORT or The seven steps on how to do it:

1. Competencies are an integral part of the regular curriculum of well-defined program and course goals, K-12. Let me illustrate that for you in 7th grade general Math.

(Transparency #6)

2. Next, choose the most appropriate grade levels for students to demonstrate competence:

   - Math -- 7th and 8th but some start at 6th grade.
   - Reading -- 8th but some start at 7th grade.
   - Writing -- 9th but some start at 8th grade.

3. It is important to certify a student as competent as soon as he has met the requirement. This allows capable students to demonstrate competence as early as they are able to do so and for others, to have remediation begin as soon as possible.

   - End of the Freshman year, 95% met reading competency.

     90% met math competency.

     70% met writing competency.

4. We developed our own competency testing program with the aid of teachers and the Director of Program Evaluation.

   - Devise system of testing, free from teacher bias or ability to influence outcome.
   - Tests were validated through field testing in a consortium of districts (Northwest Evaluation Association.)
   - Use of Rasch analysis to obtain level of difficulty.
   - Testing schedule of twice a term for 7th, 8th and 9th.

5. Expectations "beyond competence" must be well defined and students not permitted to take courses below their demonstrated achievement level. Freshman general math not permitted if math competencies show they were met in 8th grade; instead, students are required to take a higher level of math.

6. All teachers have received inservice training on how to teach to an objective. Our inservice model is the one developed by Madeline Hunter and Associates at UCLA called ITIP.

   (Transparency #7)

   - Immediate and specific feedback.
   - All students treated the same.
   - Special provisions for testing handicapped students but no dilution of standards.

7. Record-keeping system that does not rely on teacher-made entries.

- Someone else does it for them.
- Helps if it is automated especially for a large district.
- Competency report is included with every Report Card sent home.

SOME RESULTS OF THIS EFFORT:

I have already mentioned the breakthrough in achievement (CAT scores), but there are other results to share.

1. Improved our curriculum:

- Total curriculum is goal-based -- planned course statements for every course 7-12. This resulted in more continuity of instruction between teachers of same course.
- Methods for raising our own standards:
  a. Requirements in high school courses upgraded, i.e., algebra and trigonometry standards of performance established.
  b. Required K-12 Writing Program upgraded.

2. Improved preparation for college entrance.

  a. Increased number taking college prep courses.

- Almost doubled number of students taking advanced math (above Algebra I).

(Transparency #8)

- Prior to competency requirements 24% of our high school students took courses beyond Algebra I. This year, 45% of our high school students are taking courses beyond Algebra I. This is accomplished in spite of a declining enrollment.
- More Oregon students are taking college prep courses according to a survey by State Superintendent, Dr. Vern Duncan.

  b. SAT scores (Transparency #9)

3. Cooperation between school districts to identify common goals for reading, math and writing now occurring in Multnomah County.

- Developing test items for these goals and stored in computer for retrieval. These items are broad enough so that one can pick those that are unique to each district's need and assures that testing relates to what was taught.

SUMMARY:

1. We have caused students to become more accountable for their learning and in so doing, we as educators have become more accountable in the eyes of their parents.

2. Planning and implementing a goal-based curriculum which has room for students to demonstrate competency can be a positive experience; so that when students are testing, it will become a checkpoint for measuring growth rather than one of measuring accumulated deficits.

3. A remark by Socrates had to be aimed at school people over 2,000 years ago when he said, "If a man does not know to what port he is sailing, no wind is favorable."

Thank you for your attention.

40.4% - 1st QUARTILE (TOP 25%)

35.0% - 2nd QUARTILE

18.3% - 3rd QUARTILE

6.3% - 4th QUARTILE

COMPETENCY REQUIREMENTS

The State Board of Education has established three major areas of public school responsibility in terms of developing minimum-level competencies.

A. Personal Development Education - In order to function and grow as an individual, it is necessary to have:

1. Basic Skills - Reading, Writing, Computing, Listening, Speaking, Analyzing.
2. 'An understanding of scientific and technological processes.
3. The ability to develop and maintain a healthy mind and body.
4. The skills, confidence, and interests to remain a lifelong learner. Even though schools cannot prepare students for all eventualities, they can give them practical experience in trying out their skills and abilities within the framework of problem-solving. This means that every school program is equally responsible for developing skills for life-long learning.

B. Social Responsibility Education - Good Citizenship, as defined in the graduation requirements, means ability to behave responsibly:

1. As a participant in community, state, and national government.
2. In personal interactions with the environment.
3. On the streets and highways.
4. As a consumer of goods and services.

C. Career Development Education - To function and advance in any career area, students should develop:

1. Good work habits.
2. Positive attitudes toward work.
3. The ability to maintain good interpersonal relationships.
4. The ability to make appropriate career decisions.
5. The ability to plan for further training, education, or experiences related to their career choice.

1980 COMPETENCE REQUIREMENTS

581-22-316 EACH STUDENT SHALL DEMONSTRATE COMPETENCE IN:

READING

WRITING

MATHEMATICS

SPEAKING

LISTENING

REASONING

READING:

COMPETENCIES	INDICATORS
THE STUDENT IS ABLE TO:	THE STUDENT:
1.3.1 comprehend the author's main idea.	1.3.1.1 after reading a minimum of five selections, (approximate 8th-grade level), will identify the main idea in each. (80% accuracy)
1.3.2 comprehend an author's organizational plan, and the presentation of subordinate details to support the main idea.	1.3.2.1 given a minimum of two selections and the main idea for each, will identify the subordinate details that support the main idea. (80% accuracy)
1.3.3 order events, ideas, or time sequentially in selected reading.	1.3.3.1 given a minimum of two selections, will identify the sequential order of events, ideas or time. (80% accuracy)
1.3.4 draw relationships from material read.	1.3.4.1 given a selection and a number of responses for each, will identify the response best related to the selection. (80% accuracy)
1.3.5 comprehend the meaning of selected words from sentences or paragraphs through the use of context clues.	1.3.5.1 given five selctions containing words to be defined, will identify the meaning of each. (80% accuracy)
1.3.6 draw inferences from material read.	1.3.6.1 given three selections and a list of conclusions, will identify the most suitable inference implied. (80% accuracy)

PLANNED COURSE STATEMENT

Department Mathematics **Area(s) of Study** Computation

Course Title Mathematics I **Course Number** _____

Length of Course 1 year **No. of Credits** 15 term hrs. **Grade Level(s)** 7

Prerequisite(s) Permission of Instructor **Credit by Exam Available?** ☐ Yes ☒ No

Check one

- ☐ Required
- ☒ Selective
- ☐ Elective

Alternative Learning Opportunities (Check one or more)

- ☒ Does Not Apply
- ☐ Independent Study
- ☐ Off-Campus Experience
- ☐ Other (Explain in Course Overview)

Course Overview: This course is designed to guide the student in a review of operations with whole numbers and to further develop an understanding of decimals and their operations. Special emphasis is given to developing the concept of operations with fractional numbers. Percent concepts and problems are introduced. Measurement, informal geometry, and an understanding of graphs and their uses is reviewed and further developed. Considerable attention is given to systematically solving word problems, which are applications of the above course content. Most students should pass the basic computational skills portion of the math competencies by the end of this course (2.1.1 - 2.1.6).

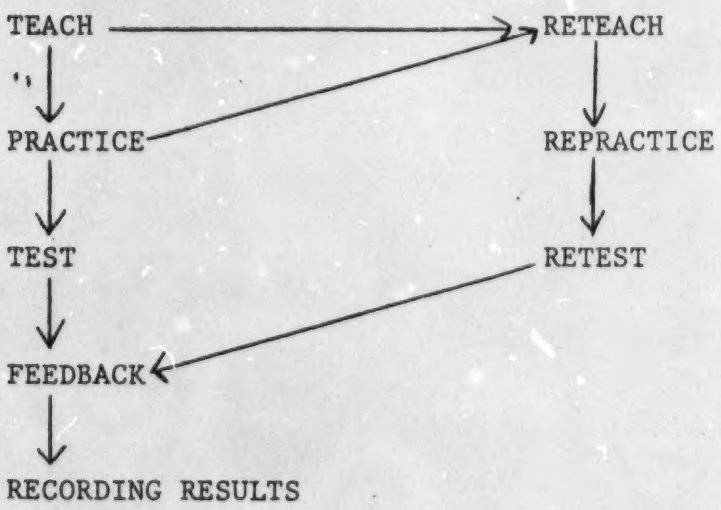
COURSE GOALS:

THE STUDENT:

1. knows the basic structure of the decimal number system.
* 2. is able to perform the operations with whole numbers, decimals, and fractions. (2.1.1, 2.1.2, 2.1.3)
* 3. is able to compare and order. (2.4)
4. is able to use the properties of numbers.
* 5. is able to apply the computational skills in solving problems. (2.1.5)
6. is able to apply the rules for divisibility by 2, 3, 5, 6, 9, and 10.
* 7. is able to change numbers to an equivalent form. (2.1.4)
* 8. is able to solve percent problems involving percentage and rate. (2.5)
* 9. is able to identify the basic properties of geometric figures.
*10. knows the meaning of the metric prefixes and is able to convert from one unit to another (milli, cent, kilo). (2.3)
*11. knows commonly used English measurement units and is able to convert from one unit to another. (2.3)
*12. is able to solve perimeter, area, and volume problems for rectangles and rectangular solids using both English and metric units. (2.1.6)
*13. is able to construct and interpret graphs (bar, broken line, and pictograph). (2.5)
*14. is able to compute the average of a set of numbers. (2.5)
15. is able to evaluate simple algebraic expressions and solve simple equations by inspection.
16. is able to write a number sentence for a word problem.
*17. is able to make reasonable estimates and perform simple computations mentally. (2.2)
18. is able to use calculators in solving problems.

PARKROSE PUBLIC SCHOOLS

INSTRUCTIONAL MODEL



DOCUMENTATION OF INCREASED ENROLLMENT IN ELECTIVE MATH

Parkrose High School

1976 - 1977	1981 - 1982
Grades 10 - 12 ... 1,299	Grades 9 - 12 ... 1,257
Number of sections of math beyond Algebra I ... 11	Beyond Algebra I ... 17
Students enrolled ... 315	Students enrolled ... 429
Total students grades 10 - 12 ... 1,299	Total students, 10 - 12 ... 962
Percent above Algebra I ... 24.2%	Percent above Algebra I ... 44.5%
Total sections of math ... 25	Total sections of math ... 40

S.A.T. SCORES, 1980-81

	VERBAL	MATH
NATIONAL	424	466
OREGON	431	469
PARKROSE	462	506